

Notice of Allowability

Application No.

10/798,726

Examiner

Andrae S. Allison

Applicant(s)

NISTER, DAVID

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to October 5, 2007.
2. ☒ The allowed claim(s) is/are 1-3, 6-8, 11-13, 16-18, 21 and 24 now renumbered 1-14.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Response to Remarks

1. The Office Action has been issued in response to amendment filed October 5, 2007. Claims 1-3, 6-8, 11-13, 16-18, 21 and 24 are pending.

Allowance

2. The following is an examiner's statement of reasons for allowance: The following is an examiner's statement of reasons for allowance: The most pertinent prior art is Quan et al (NPL Document titled "Linear N-Point Camera Pose Determination") and Zhang et al (Pub No.: US 2003/0044048).

Quan discloses a method for determining camera pose from a plurality of point correspondences between at least two images, comprising: selecting a plurality of five point correspondences from the plurality of point correspondences; generating at least one hypothesis from each of said five point correspondences; scoring said plurality of hypotheses for determining a best hypothesis; and generating rotation and translation information of said camera pose from said best hypothesis. However, Quan does not expressly mention generating at least one hypothesis from each of said five point correspondences and scoring said plurality of hypotheses for determining a best hypothesis. Zhang discloses a method for incremental motion estimation that includes generating at least one hypothesis from each of said five point correspondences scoring said plurality of hypotheses for determining a best hypothesis. However, neither Quan

or Zhang teach extracting a nullspace of a 5.times.9 matrix; expanding in accordance with cubic constraints; applying Gauss-Jordan elimination; and expanding determinant polynomials of two 4.times.4 polynomial matrices to obtain said tenth degree polynomial directly. The examiner finds no reason or motivation to combine the above references in an obvious rejection thus placing the application in condition for allowance.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made part of the record and not relied upon is considered pertinent to applicant's disclosure.

Kang, Sing Sing (US Patent No.: 6,047,078) is cited to teach a method for extracting a three dimensional model.

Torr et al (US Patent No.: 6,741,757) is to teach a feature correspondence between images using an image pyramid.

Davison et al (US Patent No.: 6,647,146) is cited to teach an image processing apparatus.

Lyons (US Patent No.: 6,970,591) is cited to teach an image processing apparatus.

Roy et al (US Patent No.: 6,956,569) is cited to teach a method for matching a two dimensional images.

Zhang et al (US Patent No.: 6,996,254) is cited to teach a method for incremental motion estimation through local bundle adjustment.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrae S. Allison whose telephone number is (571) 270-1052. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Meta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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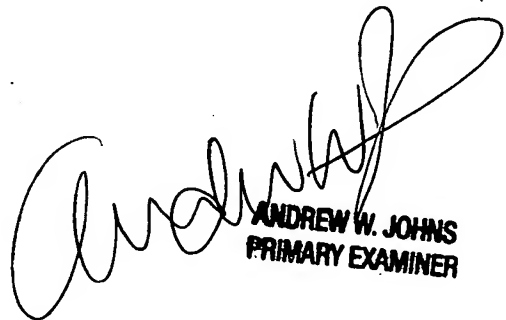
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrae Allison

December 13, 2007

AA


ANDREW W. JOHNS
PRIMARY EXAMINER